Soluble Sugar Microplate Assay Kit

Cat #: orb545638 (manual)

Detection and Quantification of Soluble Sugar content in Serum, Plasma, Cell culture, Tissue extracts, Cell lysate, Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

Biorbyt Ltd
7 Signet Court, Swann Road, Cambridge, CB5 8LA. United Kingdom
Email: info@biorbyt.com | Phone: +44 (0)1223 859-353 | Fax: +44 (0)1223 280-240

Biorbyt LLC
68 TW Alexander Drive, Durham, NC 27709. United States
Email: info@biorbyt.com | Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558

INTRODUCTION

Soluble sugar is an important osmotic regulator in plants and is closely related to stress resistance. The stress of plant carbohydrates on low temperature, drought and other stress conditions showed an increase in soluble carbohydrate content of plants. In addition to its important role in metabolism, soluble carbohydrates such as glucose and sucrose help regulate many developmental and physiological processes in plants.

Soluble Sugar Microplate Assay Kit is designed to directly measure soluble sugar content in a variety of samples. In the assay, soluble sugar reacts with anthrone. The product is determined at 620nm, is directly proportional to the soluble sugar concentration in the sample.

KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Dye Reagent	Powder x 1	4 °C
Dye Reagent Diluent	15 ml x 1	4 °C
Standard	Powder x 1	4 °C
Plate Adhesive Strips	3 Strips	
Technical Manual	1 Manual	

Note:

Standard: add 1 ml distilled water to dissolve before use, then add 20 µl into 980 µl distilled water, the concentration will be 200 µg/ml.

Dye Reagent: add 15 ml Dye Reagent Diluent to dissolve before use, store at 4 °C.

Dye Reagent Diluent: be careful, it is strong acid.

MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 620 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Mortar
6. Centrifuge
7. Timer

SAMPLE PREPARATION

1. For tissue samples

Weigh out 0.1 g tissue, homogenize with 1 ml distilled water, transfer it into microcentrifuge tubes, incubate at 80 °C for 30 minutes, centrifuged at 10000g for 10 minutes, take the supernatant into a new centrifuge tube for detection.

2. For liquid samples

Detect directly.

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ASSAY PROCEDURE

Add following reagents into the microplate:

Reagent	Sample	Standard	Blank
Sample	50 µl	--	--
Standard	--	50 µl	--
Distilled water	--	--	50 µl
Dye Reagent	150 µl	150 µl	150 µl
Mix, put the microplate into the oven, incubate at 90 °C for 15 minutes, when cold record absorbance measured at 620 nm.			

Note:

1) Perform 2-fold serial dilutions of the top standards to make the standard curve.

2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

CALCULATION

1. According to the volume of sample

$SS\ (\mu g/ml) = (C_{Standard} \times V_{Standard}) \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / V_{Sample}$

$= 200 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$

2. According to the weight of sample

$SS\ (\mu g/g) = (C_{Standard} \times V_{Standard}) \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / (V_{Sample} \times W / V_{Assay})$

$= 200 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / W$

$C_{Standard}$: the standard concentration, 200 μg/ml;

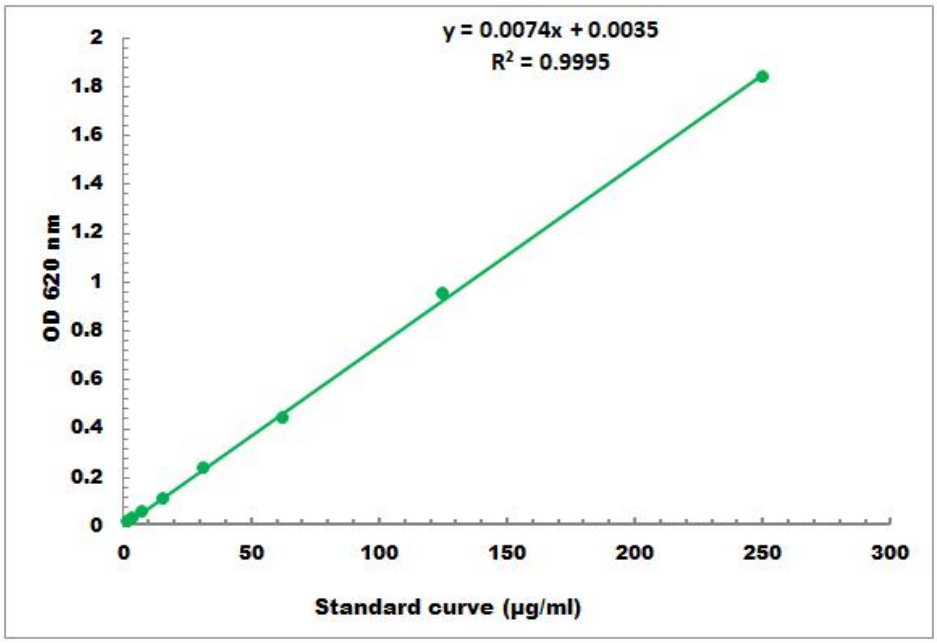
W: the weight of sample, g;

$V_{Standard}$: the volume of standard, 50 μl;

V_{Sample}: the volume of sample, 50 μl.

TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 2 µg/ml - 200 µg/ml